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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,686	11/30/2001	Thomas D. Hanan	K35A0988	1819
26332	7590	06/14/2004	EXAMINER	
WESTERN DIGITAL CORP. 20511 LAKE FOREST DRIVE C205 - INTELLECTUAL PROPERTY DEPARTMENT LAKE FOREST, CA 92630			WILSON, YOLANDA L	
			ART UNIT	PAPER NUMBER
			2113	
DATE MAILED: 06/14/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/996,686

Applicant(s)

HANAN, THOMAS D.

Examiner

Yolanda Wilson

Art Unit

2113

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-17 is/are rejected.
- 7) ☒ Claim(s) 8 and 18-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/30/2001.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Art Unit: 2113

DETAILED ACTION

Claim Objections

1. Claims 8,18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4,9,13,14,15 are rejected under 35 U.S.C. 102(e) as being anticipated by Linnell (USPN 6571355B1). As per claim 1, Linnell discloses a disk storage medium; a first bus connection; a second bus connection; a switch for selectively connecting the disk storage medium to at least one of the first and second bus connections; and an interface controller for detecting whether at least one of the first and second bus connections is active and for controlling the switch in response in Figure 1, in column 6, lines 25-53 and in column 11, line 51 – column 12, line 39. After a director fails, the control bus is checked to determine if there is a bus failure.

4. As per claim 2, Linnell discloses the first and second bus connections are separate initiator ports of the disk drive, the initiator ports being instantiated by the

Art Unit: 2113

interface controller in response to detecting which of the first and second bus connections is active in column 4, lines 50-65.

5. As per claim 3, Linnell discloses the switch includes a multiplexer in column 11, lines 14-20.
6. As per claim 4, Linnell discloses the first and second bus connections and the multiplexer are external to the disk drive in Figure 14.
7. As per claim 9, Linnell discloses the first and second bus connections and the multiplexer are integral to a disk drive VLSI controller chip in column 5, line 65 – column 6, line 24.
8. As per claim 13, Linnell discloses determining when a first one of the plural host interfaces is in a failed state; and initiating a selection of a second one of the plural host interfaces in response to the step of determining in column 6, lines 25-53.
9. As per claim 14, Linnell discloses controlling a switch used to selectively connect a disk storage medium of the disk drive to at least one of the first and second bus connections during the step of initiating in column 5, line 65 – column 6, line 24.
10. As per claim 15, Linnell discloses instantiating one of the initiator ports in response to detecting which of the first and second bus connections is active in column 4, lines 50-65.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2113

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Linnell in view of Nakamura et al. (5781448A). As per claim 5, Linnell fails to explicitly state the multiplexer is an analog device.

Nakamura et al. discloses in column 6, lines 65-67, "An analog multiplexer 30 inputs values from the level converters 26 to 29, multiplexes the inputted values and outputs the selected values."

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a multiplexer be an analog device. A person of ordinary skill in the art would have been motivated to have a multiplexer be an analog device because an analog multiplexer transmits analog signals received from one device and performs a function in reference to those signals to another device. The multiplexers described in Linnell perform a function based on the signals that they receive.

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Linnell in view of Sayiner et al. (USPN 6097769A). As per claim 6, Linnell fails to explicitly state the multiplexer is a digital device.

Sayiner et al. discloses this limitation in column 5, lines 9-14, "Note that the state metric signal having the lowest value is selected by a given multiplexer, since each digital comparator produces a 'one' output when the '+' input is larger than the '-' input, and each digital multiplexer passes the '1' when the control input is a '1'."

Art Unit: 2113

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a multiplexer be a digital device. A person of ordinary skill in the art would have been motivated to have a multiplexer be a digital device because a digital multiplexer transmits digital signals received from one device and performs a function in reference to those signals to another device. The multiplexers described in Linnell perform a function based on the signals that they receive.

14. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Linnell in view of Friedman et al. (USPN 4608559). As per claim 7, Linnell fails to explicitly state the multiplexer is an optical device.

Friedman et al. discloses this limitation in column 4, lines 39-43, "The signals on the lines 88 and 90 are transmitted through an optical multiplexer (MUX) 94 of conventional design and a buffer 96 to the data encoder 86 from one of the four client devices (not shown) coupled to the MUX 94."

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a multiplexer be an optical device. A person of ordinary skill in the art would have been motivated to have a multiplexer be an optical device because an optical multiplexer transmits data signals received from one device and performs a function in reference to those signals to another device. The multiplexers described in Linnell perform a function based on the signals that they receive.

Art Unit: 2113

15. Claims 10,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linnell in view of Lynch et al. (US Publication Number 20030045175A1). As per claims 10 and 16, Linnell fails to explicitly state the first and second bus connections are serial advanced technology attachment (SATA) bus connections.

Lynch et al. discloses this limitation in the abstract, "A dual serial advanced technology attachment (SATA) connector that includes a first SATA connector interface, a second SATA connector interface, and a housing."

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the first and second bus connections be serial advanced technology attachment (SATA) bus connections. A person of ordinary skill in the art would have been motivated to have the first and second bus connections be serial advanced technology attachment (SATA) bus connections because the serial advanced technology attachment bus connections allows information or signals to be transferred from one device to a hard disk drive. This is disclosed on page 1, paragraph 0005. The fiber channel transmission line 41, disclosed in Linnell in column 7, lines 39-52, can be the above disclosed bus having those bus connections.

16. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Linnell in view of Enterprise Storage Staff (11/26/2001). As per claim 11, Linnell fails to explicitly state the first and second bus connections are serial attached SCSI (SAS) bus connections.

Enterprise Storage Staff discloses this limitation on page 1, paragraphs 5 and 6.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the first and second bus connections be serial attached SCSI (SAS) bus connections. A person of ordinary skill in the art would have been motivated to have the first and second bus connections be serial attached SCSI (SAS) bus connections because the serial attached SCSI bus connections allows the connection of storage devices to computing systems and the transfer of information or signals between the two. The fiber channel transmission line 41₁ disclosed in Linnell in column 7, lines 39-52, can be the above disclosed bus having those bus connections.

17. Claims 12,17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linnell in view of Bolt (USPN 6725394B1). As per claims 12 and 17, Linnell fails to explicitly state the first and second bus connections are Ethernet connections.

Bolt discloses this limitation in column 9, lines 64-67, "In one example, the library controller 146 can export all management, status, and configuration information via an Ethernet interface 147 (FIG. 4), wherein the hosts 12,13 may or may not have access to the interface 147."


Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the first and second bus connections be Ethernet connections. A person of ordinary skill in the art would have been motivated to have the first and second bus connections be Ethernet connections because Ethernet connections allows the transfer of information or signals from storage devices to remote host systems. The fiber channel transmission line 41₁ disclosed in Linnell in column 7, lines 39-52, can be the above disclosed bus having those bus connections.

Art Unit: 2113

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yolanda Wilson whose telephone number is (703) 305-3298. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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